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# THE PLANT DISEASE REPORTER

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Issued by

THE PLANT DISEASE SURVEY, DIVISION OF MYCOLOGY AND DISEASE SURVEY
BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING
AGRICULTURAL RESEARCH ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

Volume XXVIII June 22, 1944 Number 18

The Plant Disease Reporter is issued as a service to plant pathologiists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

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## DISEASES ON WHEAT AND BARLEY IN PENNSYLVANIA

Leon J. Tyler

BARLEY

Ten fields of barley distributed over Adams and Franklin Counties were visited. Bearded varieties were the only ones encountered. Most of the barley was ripe or nearly so.

Leaf rust, caused by Puccinia anomala, was observed in 5 of 10 fields; severity and prevalence amounted to a trace on all culms.

Stripe, caused by Helminthosporium gramineum, was noted in 5 of 10 fields; prevalence ranged from a trace to 3%.

Spot blotch, caused by Helminthosporium sativum, was observed in 6 of 10 fields and was probably present in the others. Usually it occurred to the extent of a trace on all culms but in one field near Shippensburg severity and prevalence were 5 and 100% respectively.

Scab, caused by Gibberella saubinetii [G. zeae], was noted in 4 of 10 fields; prevalence ranged from a trace to 2%.

Loose smut, caused by Ustilago nuda and U. nigra, was present in 9 of 10 fields. Prevalence ranged from 5 to 9%; the average was 2.8%.

Covered smut, caused by Ustilago hordei [U. jensenii], was observed in 8 of 10 fields. Prevalence ranged from a trace to 14%; the average was 2.86%. Usually in fields having loose smut there was covered smut; in only one field was this not true. Only one field visited appeared to be free from both smuts.

Powdery mildew, caused by Erysiphe graminis, was noted in all fields visited. Usually all culms examined were infected and severity per culm ranged from a trace to 20% of the leaf area affected.

WHEAT

Three widely distributed fields of wheat were examined. All were in the soft dough state. Loose smut [Ustilago tritici] was observed in the 3 fields and prevalence ranged from 1 to 1.5%. Scab was noted in 2 fields to the extent of 1.5 and 2%. Leaf rust [Puccinia rubigo-vera var. tritici] was present in all fields and infection ranged from 1 to 10% on all culms.

EMERGENCY PLANT DISEASE PREVENTION PROJECT.

## DISEASES ON WHEAT IN NORTHEASTERN OHIO

M. R. Harris

Numerous grain fields in north-eastern Ohio were examined for the presence of diseases. At the time of examination almost all of the fields were rapidly ripening. This area has had less rainfall than usual which is hastening the ripening process.

By far the most important disease noted was Septoria leaf spot [speckled blotch] (Septoria tritici). Infection ranged from a trace in a few fields to others in which most of the leaves were heavily infected

or killed by the fungus. It is expected that considerable loss in chaffy grain will be found in the more heavily affected fields. Glume blotch (Septoria nodorum) was present in about half of the fields examined. Usually only a trace was found but in one large field near Mt. Vernon 50% of the heads showed infected glumes.

Leaf rust was present in most of the fields examined but was severe enough to cause damage in only one field. It is not a factor in wheat production in north-eastern Ohio this season. A trace of stem rust (Puccinia graminis var. tritici) was found in one field.

Scab was present in all fields examined. Traces only were found in fields which did not follow corn. Where corn stalks were disked down and sown to wheat scab was much more prevalent. Infection ranged from 1 to 5% of heads showing diseased florets.

Loose smut was found on a few scattered heads in several of the fields examined.

EMERGENCY PLANT DISEASE PREVENTION PROJECT.

## DISEASES OBSERVED ON SMALL GRAINS IN SOUTHEASTERN TENNESSEE

R. A. Hyre

This survey was made June 8 to 16 in the southeastern part of Tennessee, travelling from Knoxville to Chattanooga, Columbia, Murfreesboro, McMinnville, and back to Knoxville.

### BARLEY

It was too late to see barley in the field but several growers indicated that smut in barley was their biggest problem as far as smuts of cereals were concerned. At one thresher on one farm 5% covered smut was counted in 15 acres in which the seed had not been treated. On the same farm where the seed had been treated 100 acres was smut free. Another farmer usually treats his barley seed but failed to do so this year because of the labor shortage and estimated a 10 bushel per acre (25%) reduction in yield from smut.

### OATS

Three-hundred-fifty acres of oats in 28 fields were observed. Both covered and loose smuts [Ustilago kolleri; U.avenae] occurred but the former predominated. The average amount of smut in all fields observed was 4.5% with a range of 0 to 30%. Crown rust, Puccinia coronata, was observed in 80% of the fields but usually was rated as a light infection, from 5 to 20% on the U.S.D.A. wheat leaf rust scale.

### WHEAT

Over 490 acres of wheat in 42 fields were observed. In this acreage loose smut ranged from 0 to 4.5% with an average of 1%. Covered smut (Tilletia sp.) was found in 10 (about 24%) of the fields. It was found as a trace only in 6 fields and from 2 to 3.8% in 4 fields. Stem rust was always present but frequently in small amounts and in only a few fields was it very severe (30% or more on a scale similar

to the leaf rust scale). Leaf rust was difficult to estimate because of the maturity of the grain, but it seemed to be relatively light this year. No nematodes (Tylenchus [Ditylenchus] tritici) were found on this trip. Scab was frequently seen but apparently was causing little loss.

EMERGENCY PLANT DISEASE PREVENTION PROJECT.

## WHEAT NEMATODE IN TENNESSEE

C. D. Sherbakoff

It seems that wheat nematode [Ditylenchus tritici] is at present well established in parts of East Tennessee.

Yesterday (June 15) the writer received letters from county agents of Cocke County and Greene County, in each case with samples of wheat affected with nematodes.

From the first named county the report is "This disease has been very noticeable in the county for the past 3 years and some of the millers called my attention to it last year."

From the second named county it is reported that in the field where this disease was found the same disease was observed by the farmer about 6 years ago.

UNIVERSITY OF TENNESSEE

## DISEASES OF SMALL GRAINS AND GRASSES IN NORTH DAKOTA

Ian W. Tervet and Roderick Sprague

A survey of small grains and grasses was made from June 10 to June 14. The area covered was from Mandan to the western edge of North Dakota, north to the Canadian line, eastward to the western edge of the Red River Valley, returning to Mandan through central North Dakota. Recent rains have made the outlook for small grains very favorable and there are good prospects for an excellent wheat crop in most of North Dakota.

WHEAT and BARLEY

Root browning (Pythium arrhenomanes) and root rot (Helminthosporium sativum) were common throughout the area covered, being more severe in the moister area in the eastern part of the State. Loss from these diseases was estimated to average at the time about 4% in western North Dakota, with the loss increasing to about 7% at the western edge of the Red River Valley. The most severe injury from root rots was found in a field of wheat near Petersburg. This field was examined about 4 weeks ago and at that time almost all plants were heavily infected with root and crown rot (H. sativum). On June 13, the stand was only 40% of normal, with an estimated loss of 12% from root rot on the still surviving plants. Thus in this one field, seedling blight and root rot had reduced the potential yield by more

than 50%. Pigeon grass (Chaetochloa sp.) was uniformly heavily infected with P. arrhenomanes. Septoria nodorum was found in one wheat field, south of Devils Lake, and Helminthosporium teres occasionally on leaves of barley.

OATS.-

In one oat field in Grant county, plants were lightly attacked by a leaf streak tentatively identified as being caused by Pseudomonas striaefaciens.

RYE.-

Apart from small amounts of bacterial leaf spot (Xanthomonas translucens f. sp. secalis), rye seemed free from disease. In one field near Pingree, in Stutsman County, leaf spot (Septoria secalis) was found but was causing little damage. Helminthosporium sativum was also found on the same leaves.

FLAX. -

In comparison with flax in the wetter areas of eastern South Dakota and western Minnesota, little disease was seen in North Dakota. Seedling blight (cause not determined) and wilt (Fusarium [oxysporum f.] lini) were unimportant, no more than a trace of these diseases being found in any field. Heat canker was also of minor importance.

While rust (Melampsora lini) was not found on cultivated flax, plants of Linum lewisii Pursh, in South Roosevelt Park in Billings County were heavily infected.

GRASSES. -

Leaf spots were common on many grasses. The following list comprises the diseases of grasses collected during this survey and identified by Roderick Sprague.

| | |
|---|---|
| Agropyron griffithsii | Scribn. and Smith. |
| Chocolate spot. | Pseudomonas coronafaciens Elliott var. atropurpureum (Reddy and Godkin) Stapp<br>Host reaction is resistant. |
| Agropyron repens. (L.) Beauv. | |
| Chocolate spot. | Pseudomonas coronafaciens Elliott var. atropurpureum (Reddy and Godkin) Stapp<br>Stampede, North Dakota. |
| Blotch | Septogloeum oxysporum Sacc. Bomm., and Rouss.<br>Bowbells, Zahl |
| Agropyron smithii Rydb. | |
| Leaf streak | Scolecotrichum graminis Fckl.<br>Bentley, Flasher |
| Agropyron trachycaulum | (Link) Malte. |
| Cat-tail disease | Epichloë typhina ((Fr.) Tul.<br>Dunseith |
| Leaf streak | Scolecotrichum graminis Fckl.<br>Upper Deslacs Lake. |

Leaf spot — Selenophoma sp.
Belfield
Septoria sp. (not S. elymi)
Belfield

Blotch — Septogloeum oxysporum Sacc., Bomm., and Rouss
Upper Deslacs Lake, Appam, Zahl, Dunseith

Bromus inermis Leyss.

Leaf spot — Selenophoma bromigena (Sacc.) Sprague and A. G. Johnson
General; most abundant northern and eastern North Dakota.

Festuca octoflora Walt.

Leaf spot — Septoria tenella Cke. and Ell.
General in western North Dakota wherever F. octoflora is found.

Hordeum jubatum L.

Leaf streak — Scolecotrichum graminis Fckl.
General

Leaf spot — Septoria passerinii Sacc.
Melville.

Koeleria cristata (L.) Pers.

Leaf spot — Septoria calamagrostidis (Lib.) Sacc. f. koeleriae (Cocc. and Mor.) Sprague.
Melville.

Oryzopsis hymenoides (Roem. and Schult.) Ricker

Mold — Wojnowicia graminis (McAlp.) Sacc. and D. Sacc.
Bentley

Phleum pratense L.

Leaf spot — Selenophoma sp.
Melville.
This species known in Europe as Septoria culmifida Lind is part of the Selenophoma complex on Gramineae. This is the first report on Phleum for the United States although this fungus occurs in Alaska and Canada.

Poa canbyi (Scribn.) Piper

Powdery mildew — Erysiphe graminis D.C.
Stampede

Leaf streak — Scolecotrichum graminis Fckl.
Elgin, Zahl

Leaf spot — Septoria oudemansii Sacc.
Elgin

Poa compressa L.

Powdery mildew — Erysiphe graminis D.C.
Zahl

Rust — Puccinia poae-sudeticae (Westend.) Jørstad.
at Upper Deslacs Lake, Zahl
This rust was not found on plants of Poa pratensis L. adjacent to heavily rusted plants of P. compressa. The rust pustules on plants at Upper Deslacs Lake were parasitised by Darluca filum (Biv.) Cast.

Leaf streak — Scolecotrichum graminis Fckl.
Melville, Zahl.

| | |
|---|---|
| Poa palustris L. | |
| Leaf streak. | Scolecotrichum graminis Fckl.<br>St. Anthony, Dahl. |
| Sheath rot | Rhizoctonia solani Kühn<br>Stampede |
| Poa pratensis L. | |
| Powdery mildew | Erysiphe graminis D.C.<br>Mandan |
| Leaf streak | Scolecotrichum graminis Fckl.<br>Mandan |
| Poa secunda Presl. | |
| Leaf streak | Scolecotrichuum graminis Fckl.<br>Alexander and South Roosevelt Park |
| Stipa comata Trin. and Rupr. | |
| Stem smut | Sorosporium granulosum Ell. and Tracy.<br>Appam. |
| Stipa viridula Trin. | |
| Leaf spot | Ascochyta stipae Died.<br>Beach<br>Selenophoma Sp.<br>Beach |

## DISEASES ON CEREAL CROPS IN IOWA

Edgar F. Vestal

Continuing the survey, a partial report of which was made June 3, relative to halo blight and Helminthosporium spot on oats, 24 farms lying in Marshall, Tama, Black Hawk, Hardin and Story Counties were visited and the amount of each disease recorded.

OATS.--

Helminthosporium [H. avenae] spot and halo blight had both increased since the report of June 3. Halo blight was especially heavy on Boone oats. This fact was also noted by Dr. Ian Tervet in his survey of districts in South Dakota. Isolation of the halo blight organism (Pseudomonas coronafaciens) with the subsequent inoculation of oat seedlings with positive results, by Dr. G. C. Kent, has cleared up a bit of confusion regarding the real cause of the halo type of infection being found in the fields.

In a survey of nine community grain trial nurseries in the counties of Webster, Humboldt, Pocahontas, and Sac, in company with Dr. H. C. Murphy, Dr. C. S. Reddy, and Professor L. C. Burnett, crown rust was found on the variety Gopher in every nursery. Occasional pustules were found on other varieties but the disease appeared epidemic only on the Gopher variety. Stem rust (Puccinia graminis var. avenae) was found on Gopher oats in 2 localities (Sac City and Odebolt in Sac County) and on Boone oats in Sac City. It was found on Boone oats in a field near Sac City. It is believed that this is the first report of stem rust on oats in Iowa this season.

RYE.-

Leaf rust (Puccinia dispersa)[P. rubigo-vera var. secalis] is in near epidemic stage on rye in various places.

FLAX.-

Spotting noted on a field of flax near Gilmore City in Pocahontas County was characteristic of pasmo disease [Mycosphaerella linorum]. No rust was observed.

EMERGENCY PLANT DISEASE PREVENTION PROJECT.

## CEREAL DISEASE SURVEY IN KANSAS

Stuert M. Pady

During the past week the cereal disease survey was continued and 6 of the northeastern counties of Kansas were visited on June 10, and 25 of the central, south-central, southwestern, and northwestern counties were visited from June 14-19, the latter with Dr. Hurley Fellows, U.S.D.A., and Dr. E. D. Hansing, Department of Botany and Plant Pathology, Kansas State College. Warm dry windy weather has hastened the maturity of the wheat which, in the central part of the State, is mainly in the stiff dough stage. In northwestern counties the wheat is much later and most fields are in the milk or soft dough stage.

WHEAT.-

Stem rust has increased greatly since it was first observed on a previous trip (May 30-June 2). While it is present from the extreme eastern part of the State to the western border, it occurred in all fields examined in the central counties, ranging from a trace on scattered plants to a few fields with as much as 30% infection, averaging about 1%. In the 2 western rows of counties the amount of stem rust was much less, it being found in only 23 out of 42 fields examined, and mostly primary infections on scattered plants. On June 16 stem rust was found at the Experiment Station at Garden City. Since Mr. A. E. Lowe reports that on June 14 a careful search was made with negative results, it indicates that stem rust has moved into the western part of the State much later than the central part.

Speckled leaf blotch continues to increase, particularly in central and southwestern Kansas. In Gray, Ford, and neighboring counties Septoria has killed all of the basal and middle leaves and is now present on the upper leaves. There are some cases where every leaf has been killed and it is probable that considerable injury has resulted. In the western part of the State the disease affects mainly the basal and middle leaves. The presence of leaf rust complicates the picture since leaf rust is causing the death of the upper leaves in some fields. In general the distribution pattern is similar to that of Septoria, with infections in the central third of the State, averaging about 5%, ranging from trace on scattered plants to 50%, and considerably less in the western part of the State. There are many fields where the leaves are drying up and it is impossible in most cases to attribute this to Septoria or leaf rust, or to some other factor.

Loose smut was found in 70% of the fields ranging from a trace to 9%, averaging a trace. One field was found in Brown County with 20% infection. In northeastern Kansas loose smut on Clarkan is especially conspicuous. Bunt (Tilletia sp.) was found in trace amounts in 10 fields in Atchison, Leavenworth (2), Jefferson, Douglas, Saline, Decatur and Rooks counties, and in 2 fields on the Geary-Dickinson county line.

Take-all (Ophiobolus graminis) was not particularly prominent, being found in only 14 scattered fields. In 7 of these the amount was a trace, while in the remainder the average was 17%, 2 fields having 25% and 40% infection. While take-all is usually confined to the central counties, it was of interest to find it also in southwestern Kansas with 4 fields in Kiowa and 2 fields in Gray and Haskell Counties.

Dryland foot-rot is becoming evident in Southwestern and Northwestern Kansas. The disease is manifest mainly as scattered infected plants with white heads and culms and rotted crowns. In 30 fields 27 were described as a trace with higher percentages being recorded in single fields in Graham (1%), Haskell (25%), and Kiowa (15%) counties. This disease was found in the following counties: Pratt (2 fields), Kiowa (6), Ford (4), Haskell (3), Finney (1), Cheyenne (1), Rawlins (1), Sheridan (2), Graham (1), Rooks (6), Ellis (2), and Russell (1).

Scab is conspicuous in many fields of Clarkan in northeastern Kansas. A trace of basal glume rot (Phytomonas [Pseudomonas] atrofaciens) was found in one field in Geary County.

OATS.-

Stem rust was the most serious of the diseases observed on oats, being found in 12 out of 13 fields in 13 widely scattered counties. In most fields the amount of stem rust was a trace, but in 3 fields, in Kingman, Saline, and Dickinson Counties, the amounts were 5, 20, and 20%, respectively, and gave evidence of causing damage, particularly where the oats were late. Crown rust was found as a trace in 9 fields. In the experimental plots at Goddard, the variety Kanota was heavily infected. Smut (loose and covered) was present in 5 fields in none of which did the amount exceed 1%.

BARLEY.-

Stem rust (Puccinia graminis) was found in 7 out of 9 fields examined in various parts of the State, in all cases the amount being a trace. A trace of leaf rust was found in 3 fields. Smut (covered and loose) was present in all but one field, ranging from a trace to 4%, averaging 2%, except in one field in Sherman County where the smut was recorded as 55%. Bacterial blight (Phytomonas [Xanthomonas] translucens) was found in small amounts in 3 fields in the western part of the State. Stripe disease (Helminthosporium gramineum) was also noted in 2 fields but was not causing any serious injury. Spot blotch (Helminthosporium sativum) was common, being found in varying amounts in most fields.

RYE.-

In one field in Jefferson County leaf rust was abundant on most plants, while anthracnose (Colletotrichum graminicolum) was infecting 60% of the leaves.

EMERGENCY PLANT DISEASE PREVENTION PROJECT.

## OTHER REPORTS ON DISEASES OF CEREAL CROPS

BARLEY SMUT IN COLORADO AND IDAHO: E. W. Bodine reports that loose smut was found to be general in many of the fields visited in Adams, Larimer, and Weld Counties in Colorado. In most fields only slight reduction in yield will result. From 8 to 10% of the heads were infected in one field in Weld County. (Week ending June 17).

A trace of smut [type not designated] was noted in fields of hooded barley in the vicinity of Lewiston, Idaho, according to Earle C. Blodgett (June 16).

BACTERIAL WILT ON SWEET CORN IN NEW YORK: Wilt [Bacterium stewartii] is appearing in some sweet corn in Ulster County.-- C. C. Gillette, Weekly News Letter, June 19.

CORN DISEASES IN FLORIDA: A 5-acre planting of field corn nearing maturity at Archer was characterized by extensive firing of leaves throughout the field. Leaf blight (Helminthosporium turcicum) appeared to be the principal cause but brown spot (Physoderma zeae-maydis) and rust (Puccinia sorghi) also were contributing factors. A trace of white bud due to zinc deficiency was also noted.--Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

DISEASES ON CORN IN LOUISIANA: Traces of rust, brown spot, and leaf blight were found on corn throughout the area visited, in the northern part of the State.--Douglas C. Bain, Emergency Plant Disease Prevention Project. June 12-17.

FLAX DISEASES IN MONTANA: Flax wilt (Fusarium [oxysporum f.] lini) was found in one field on sandy loam soil near Medicine Lake. Heat canker (physiological) was seen in a number of flax fields in northeastern Montana.-- C. M. Slagg, Emergency Plant Disease Prevention Project. Week ending June 17.

## DISEASES REPORTED ON LEGUMINOUS FORAGE CROPS

ALFALFA YELLOWS IN SOUTHEASTERN TENNESSEE: Inspection during the period June 8 to 16 was made in Southeastern Tennessee, from Knoxville to Chattanooga, Columbia, Murfreesboro, McMinnville, and back to Knoxville. Yellows was quite commonly seen on this trip. As observed from the car, over 60% of 30 fields showed distinct yellows, severe in a few cases. From the purple coloration and more prominent symptoms in the younger tissues one would judge that boron deficiency was a prominent cause of the yellows.--R. A. Hyre, Emergency Plant Disease Prevention Project.

ALFALFA DISEASES IN MONTANA: Areas inspected during the week ending June 17 included the lower Yellowstone, Missouri, and Milk River Valleys, from Havre, Great Falls, and Billings to the eastern border of the State.

Alfalfa Wilt (Corynebacterium insidiosum) was found in all areas visited, but it is much less damaging in eastern Montana, even in irrigated soils, than in the western intermountain, irrigated districts. Leaf Spot diseases, particularly Leaf Blotch (Pyrenopeziza medicaginis)

and Leaf Spot (Pseudopeziza medicaginis) are more prevalent and damaging in Eastern Montana, often causing serious defoliation. Considerable injury was caused in many fields of rankly growing alfalfa by Bacterial Stem Blight (Pseudomonas medicaginis) which increased breakover and lodging. Downy Mildew of alfalfa (Peronospora trifoliorum) was found causing slight damage to first year stands in nearly all areas inspected. Dodder (Cuscuta sp.) was found in one field of seed alfalfa in the Pease Bottoms irrigated area west of Hysham.

Serious hail damage was found over a 15-mile stretch of irrigated area between Burns and Crane in the lower Yellowstone Valley

Winter injury and crown decay are almost always present in badly wilted alfalfa plants, and this has led to understandable doubt among plant pathologists as to the primary role of bacterial wilt in causing the death of such plants. Severe winter injury and crown rot occur in non-irrigated alfalfa in Montana, with wilt usually completely absent. In the absence of wilt, however, such plants seem to be able to throw out new shoots below the injured crowns, and to produce a nearly normal subsequent growth and crop.

As a part of the laboratorywork on alfalfa wilt, Frances G. Afanasiev has sectioned suspected alfalfa roots, fixed and stained them by recently recommended procedures, and demonstrated the presence of bacteria in the large conductive vessels of the vascular system. Laboratory studies and field observations, therefore, both indicate that bacterial wilt is largely responsible for the premature dying out of alfalfa stands in irrigated soils of Montana, particularly in the intermountain region.--C. M. Slagg, Emergency Plant Disease Prevention Project.

ALFALFA BLACKSTEM IN COLORADO: Blackstem (Phoma medicaginis) was found to be general in Adams, Boulder, Larimer and Weld Counties. In many alfalfa fields from 90 to 100% of the plants are infected. Many growers are cutting early in order to expose and aerate the infected stem base areas to reduce the amount of infection on new growth.--E. W. Bodine, Emergency Plant Disease Prevention Project. Week ending June 17.

LEAF SPOT ON COWPEA IN FLORIDA: Leaf spot (Cercospora cruenta)infection in an early stage was found to occur quite generally on cowpeas interplanted in a 30-acre cornfield between Bronson and Chiefland.--Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

DISEASES OBSERVED ON VARIOUS LEGUMES IN LOUISIANA: Surveys during the period from June 12 to 17 were made in the northern portion of the State.

On Soybean, bacterial blight (Bacterium sojae) [Pseudomonas glycinea] and leaf spot (Cercospora daizu) [C. sojina] were noted in the Bunie area. In one field infection was light, but in another it appeared to be rather heavy.

False anthracnose (Protocoronospora nigricans) was found to be abundant on dying or dead pods of Vetch in one field near Powhatan (Natchitoches Parish).

Austrian Winter Pea plants in the only field seen in this State,in Bossier Parish, were heavily infected with powdery mildew (Erysiphe polygoni).

A trace of southern wilt (Sclerotium rolfsii) was noted in a large Cowpea field near Alexandria.--Douglas C. Bain, Emergency Plant Disease Prevention Project.

## DISEASES REPORTED ON VARIOUS SPECIAL CROPS

COTTON DISEASES IN LOUISIANA: Surveys during the period from June 12 to 17 were made in the northern portion of the State. Cotton and corn are generally distributed throughout the area. Angular leaf spot (Bacterium [Pseudomonas] malvacearum) was found in every cotton field in which observations were made. Infection appeared rather heavy around Shreveport. None was found on bracts of flower buds. Wilt (probably Fusarium [oxysporum f.] vasinfectum) was also noted in trace amounts throughout the area. In one large field in Bossier Parish, 1% of the plants were affected.--Douglas C. Bain, Emergency Plant Disease Prevention Project.

DISEASES OF SUGAR BEET IN MONTANA: During the week ending June 17 the area surveyed included the Lower Yellowstone, Missouri, and Milk River Valleys, from Havre, Great Falls, and Billings to the eastern border of the State.

Black root of sugar beets was found in all areas surveyed. Its attack was most severe in heavy clay soils low in organic matter or with inadequate phosphate fertilization. It was found present even in virgin soils in new irrigation projects. Fusarium wilt (F. conglutinans var. betae)[F. oxysporum f. betae] was found in the Pease Bottoms area in one field on sandy loam soil. The plants were well past seedling stage, being at about the 12-leaf stage of growth. Serious hail damage was observed a 15-mile stretch of irrigated area between Burns and Crane in the Lower Yellowstone Valley.--C. M. Slagg, Emergency Plant Disease Prevention Project.

DISEASES OBSERVED ON SUGAR BEET IN CALIFORNIA: Only a trace of curly top (virus) was seen in the Delta region.

Southern root rot (Sclerotium rolfsii) was found in one field west of Clarksburg. Only a small number of the plants were killed at this time but the disease may become more severe later in the season.

Dr. L. D. Leach reports that a 100-acre field of sugar beets in Yolo County was abandoned recently because of the sugar beet nematode (Heterodera schachtii). This loss was attributed to the grower's failure to follow strict rotation practice, since the nematodes were known to be present in the soil.--Horace L. Barnett, Emergency Plant Disease Prevention Project. June 4-17.

DISEASES ON HOPS IN OREGON. Scattered yards were observed along the river bottom areas in the vicinity of Salem and Albany and in the upland areas in the vicinity of Mt. Angel, June 15.

Downy mildew (Pseudoperonospora humuli) was prevalent in all localities. The efficacy of control by the use of resistant varieties and sanitary practices, in addition to the application of fungicides, was evident at this time. One grower who stated that he had grown hops for more than 40 years without financial loss in any year, claims that hill treatment and persistent training of laborers to recognize and rogue infected shoots or spurs whenever seen are very effective in the reduction of loss. On the whole less downy mildew occurred than might have been expected in view of the prevailing cool weather to the present time.

Several symptoms of undetermined cause were noted. In areas on lower ground, some plants showed leaves of dark color and coarse texture that tended to form an inverted cup as they hung from the vines. These leaves also showed various degrees of fluting, and the ridges of the folds were necrotic or broken in various degrees.

In the upland areas, plants were found with leaves showing various degrees of interveinal chlorosis. The more severely affected plants also showed a necrosis and dieback of the tips. Such plants occurred in somewhat localized spots; however, it was not evident whether the spots were the result of natural spread of the trouble, or originated from replants made from affected plants when replacements were necessary. -- Lytton W. Boyle, Emergency Plant Disease Prevention Project.

## LATE BLIGHT ON TOMATO IN LOUISIANA

I. L. Forbes and L. H. Person

This is the first report, as far as is known, of late blight (Phytophthora infestans) on tomatoes in Louisiana. The disease was found on tomatoes near Houma, on April 26, 1944. This was a single row of tomatoes grown in a potato field. Late blight had reached epidemic proportions in the Triumph potato field. The tomato plants were small and the blight was found on the leaves only.

On June 1 an epidemic of late blight was found on Marglobe tomatoes in the vicinity of Baton Rouge. In this case the tomato plot, about 1/4-acre in size, was grown directly adjacent to 4 rows of potatoes, Bliss Triumph and Katahdin varieties. The potatoes were reported by the grower to have been killed down to the ground by the blight in early May. The grower removed the dead potato plants by cutting with a hoe and burned the blighted mass of tops before digging the tubers. Tubers were dug dry, not washed and stored in a warm storage house. On June 1, no rot was found on the tubers which had kept perfectly.

Most of the tomato fruits, from very small ones to those nearing maturity, were rotting on the blighted vines. The fruit rot was rather firm, brownish in color, with a characteristic ring-like pattern in most instances, similar to symptoms produced by Phtophthora terrestris. Cultures were made from the fruits to verify the assumption that the fruit rot, as well as the leaf mildew, was due to Phytophthora infestans.

LOUISIANA STATE UNIVERSITY

## TOMATO DISEASES IN PENNSYLVANIA

Leon J. Tyler

During the period June 12 to 17, inclusive, fields of tomatoes were examined for diseases, in Adams and Franklin Counties in southern Pennsylvania.

The tomato disease survey was extended to these counties because a high percentage of the transplants used were locally grown and this afforded a better opportunity for comparison of disease-free qualities of northern and

southern transplants than did the survey of the preceding week.

One hundred plants, selected at random and well distributed were examined in each field entered. An effort was made to contact the growers of the different plants to learn the source of plants, transplanting dates, agencies supplying the plants, and disease control practices.

The disease, Alternaria stem canker, caused by Alternaria solani, was found in 22 of a total of 33 plantings examined. The percentage prevalence of this disease in the different plantings ranged from none to 70; 12.4% of all plants examined were affected. Based only upon fields that exhibited the disease, 17.2% of all plants examined in such fields in Adams County were infected and 21.2% of those in Franklin County. The respective percentages of plants bearing leaf lesions caused by A. solani, were 4.2 and 8.6 for the 2 counties, respectively. All plants bearing leaf lesions had stem cankers. Plants that bore leaf lesions but not stem cankers were not found.

The source of the plants was important in relation to the number of plantings exhibiting the stem canker disease and to the prevalence of diseased plants within the different plantings.

Twelve of 14 plantings set with Georgia State certified transplants contained plants showing Alternaria stem canker, and 10 of 19 set with locally (Pennsylvania)-grown transplants exhibited the disease. Of all Georgia plants examined 24.2% were diseased, while 12% of all locally grown transplants examined contained stem cankers.

Eight different commercial canning companies distributed plants to Adams and Franklin County growers of the different plantings examined. Three of these grew the seedlings locally while 5 obtained and distributed alleged certified plants from the south. The Alternaria stem canker disease was not found in plants locally produced by one southern Pennsylvania canning company, it was practically absent in plants of one other locally producing company, but appeared that a third concern was not so successful since 4 fields set with plants said to have been locally grown by this latter company contained stem-cankered plants to the extent of 4, 7, 21, and 70%. All companies distributing transplants of southern origin distributed some plants bearing Alternaria stem canker.

Two growers were encountered in Adams County who had grown their own transplants. Both appeared to have produced stem-canker-free plants although neither had followed all the usual disease control practices.

Unfavorable weather and shortage of laborers were said to have delayed transplanting of some tomato plants of southern origin. These factors appear to have resulted in the intensification of Alternaria stem canker in some fields.

Two-thirds of the fields visited were set with plants between May 6 and 25, while one-third were set between May 26 and June 6. In general the plantings made during the earlier period looked much better than later plantings. So far as these observations go the destructiveness of stem canker did not appear to be correlated with any particular planting period.

Tomato mosaic (virus) was observed in 8 of 33 plantings, all plantings showing mosaic were from northern plants. The prevalence of mosaic ranged from 1 to 4%.

Diseases other than those mentioned above were not encountered in tomato fields.

The tomato variety, Rutgers, appeared to be the only one extensively used.

EMERGENCY PLANT DISEASE PREVENTION PROJECT.

## OTHER REPORTS ON TOMATO DISEASES

TOMATO DISEASES IN FLORIDA: A 6-acre and a 1-1/2-acre planting at Whitney in Lake County, a 5-acre planting north of Wildwood, a 6-acre field at Oxford, and another 5-acre field between Oxford and Summerfield, Sumter County, were nearly completely killed by early blight (Alternaria solani) when seen on June 8. The vines in these fields were almost completely defoliated and blackened and a large quantity of fruit that remained unpicked in each field was sunscalded and rotting. Gray spot (Stemphylium solani) also was of widespread occurrence on the scanty foliage that remained living in these fields. It was estimated that at least 1/2 to 2/3 of the crops in these fields had been harvested. -- Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

TOMATO DISEASES IN NORTHERN LOUISIANA: Surveys during the week ending June 17 were made in the northern portion of the State. Tomatoes are grown on a commercial scale around Logansport in DeSoto Parish and Chatham in Jackson Parish.

Early blight was common on plants in both the Logansport and Chatham areas. In one 1-acre field near Logansport, 30% of the plants were affected by southern wilt (Sclerotium rolfsii). This field was in a rather poorly drained area. In another field of about 2 acres practically all of the still green fruit was severely spotted by bacterial spot (Phytomonas [Xanthomonas] vesicatoria). Fusarium wilt (Fusarium [oxysporum f.] lycopersici) was noted in both areas. In a 1/2-acre field near Chatham 5% of the plants were affected. -- Douglas C. Bain, Emergency Plant Disease Prevention Project.

TOMATO VIRUS DISEASES IN CALIFORNIA: In most of the tomato-growing sections of the Santa Clara and Sacramento Valleys the plants had been in the ground for 2 weeks or more. In general, little disease had appeared at this time.

At Mt. Eden (Alameda County) one field of 20 to 30 acres was severely damaged by spotted wilt (virus). From 10 to 40% of the plants were infected in the different parts of the field. The owner stated that other growers had noticed spotted wilt in their fields. In other fields visited at this time only a trace to slight infection was seen. The appearance of spotted wilt in the field is considerably earlier this year than usual. The disease was reported by Dr. M. W. Gardner from San Pablo during May.

A trace of "shoestring" (cucumber mosaic virus) was found in the Mt. Eden area.

Tomato mosaic (virus) was commonly encountered but was not serious in any field at this time. -- Horace L. Barnett, Emergency Plant Disease Prevention Project. June 4 - 17.

## REPORTS ON POTATO DISEASES

LATE BLIGHT AND EARLY BLIGHT ON LONG ISLAND, NEW YORK: On the North Fork of Suffolk County early blight (Alternaria solani) was found in 2 fields in Mattituck; the disease was identified positively by Dr. L. L. Hill. The

extreme dry weather has checked any spread.

Late blight (Phytophthora infestans) was found in one irrigated field west of Mattituck but dry weather has prevented any danger of spread. All blight determination was checked and confirmed by Dr. Hill. -- G. G. Gyrisko, Weekly News Letter, June 19.

POTATO DISEASES IN FLORIDA: Plantings totaling 461 acres were examined on muck soil at Zellwood in Orange County, June 6 and 7. All the vines in this section were frozen to the ground by the severe late frost of April 6. A few fields were characterized by a poor stand or bare areas in places as a result of damage of the new sprouts by cutworms. One grower with 70 acres suffered so much damage as a result of this combination that he disced in 7 1/2 acres and planted other crops. This grower reported that he would do well to get half a crop on one 40-acre block. No virus diseases were observed. A number of plantings were being dug but others will not be ready until later.

All plantings examined showed more or less evidence of early blight (Alternaria solani) but the weather has been dry and hot of late and the disease has not made much headway as yet in many fields, the vines being still green in general in fields totaling 202 acres. However, a heavy rain occurred on the evening of June 6 and more is likely to follow. A planting of 80 acres of Bliss Triumph was seen in which early blight was widespread throughout, being so severe on the east half that most of the foliage was killed and the vines had a decided brownish appearance. A 20-acre planting on an adjoining tract across a canal with a driveway on each side, however, was fairly free from this disease and in good green condition. A planting of 160 acres (120 of Katahdin and 40 of Bliss Triumph) across the canal and road on the other side of the severely blighted 80 acre planting also was characterized by general widespread occurrence of early blight, sufficiently severe to cause a general browning of the foliage in various parts. Severe killing of the foliage from early blight was observed in another planting of 10 acres of Bliss Triumph, and in another of 9 acres nearby practically all the foliage was killed while the tubers were still quite small.

Scab (Actinomyces scabies), which has a tendency to be unusually severe in plantings on muck soils in the Zellwood area, was worse this year than last. This is probably owing to the fact that because the vines were generally killed by frost the tubers had to remain from 2 to 3 weeks longer in the ground to acquire sufficient maturity. Scab was exceedingly severe on tubers dug from several hills in the 80-acre field of Bliss Triumph and bacterial soft rot (Erwinia carotovora) also was apparent following the deep-pitted scab. This was said to be the first time that potatoes had been planted on this land, and grade B tubers left over from certified seed were said to have been used for planting stock. They were not disinfected. From all accounts none of the growers in this section disinfected their seed. A sample of 75 bushels had just been dug from this planting for running through the packing-house to see whether or not it was worth digging. The tubers proved to be so badly infected with scab that but 12 bushels of a commercial grade were secured and it was estimated that but from 3 to 4 bushels of these would make the No. 1 grade. In view of the poor yield of merchantable tubers and the fact that it would cost at least $4 a day per man to dig and harvest this planting, it was not considered to be worth while. Practically all the potatoes on these muck soils are dug by hand as

machine diggers have not proved satisfactory.

Considerable scab, both deep-pitted and surface, also occurred in the 120-acre planting of Katahdin potatoes that were being dug but the severity of this disease was said to vary widely in different parts of this field, and a large proportion of the tubers that were going through the packing-house was clean, with some tubers ranging up to a pound in weight. Growers in the Zellwood section invariably regard the Bliss Triumph variety as being much more susceptible to scab than the white varieties. In view of the tendency for scab to be unusually severe in this section there appears to be little justification for growers to continue to plant the Bliss Triumph variety.

Yields of potatoes in general will not be nearly as great this year as last year due to the vines having been killed to the ground by the severe late frost of April 6, the development of early blight in many fields, and the general prevalence and severity of scab. However, in all cases where the sprouts that developed after the frost were not subsequently damaged by cutworms, the plants have developed a remarkably fine growth of tops and the tubers in general appear to be sizing up fairly well. Potatoes grow remarkably well on the muck soils at Zellwood. In some cases a fair volunteer crop was observed to have developed from tubers left in the ground at the last harvest. In one case a fairly good stand of potatoes was competing strongly with snap beans that were planted subsequently. One of the largest growers of potatoes in this section stated that he shipped 357 bushels of U. S. No. 1 grade per acre from a 40-acre planting last year. Other reports of similar high yields were made by other growers. -- Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

POTATO LATE BLIGHT AND WEATHER INJURY IN IOWA: In company with Dr. W. J. Hooker, and for part of the time with Dr. I. E. Melhus, a survey of the northern Iowa potato-growing region in Wright, Cerro Gordo, Mitchell, Hancock, Worth, Emmett, and Winnebago Counties was made June 12 to 14. A very heavy rain had fallen on Sunday night, June 11, reaching a peak of 7.5 inches at Crystal Lake and Forest City. As a result many fields were completely under water and the entire crop in most cases will be lost. Losses to the growers in potatoes and onions will be especially heavy.

In all, 12 farms were visited and 7 cull piles found and examined for late blight (Phytophthora infestans). Late blight was found at Crystal Lake and Clear Lake on cull piles. These have been destroyed. No infection has been reported on potatoes in the field. -- Edgar F. Vestal, Emergency Plant Disease Prevention Project.

POTATO DISEASES IN COLORADO: A trace of infection by early blight was found in the vicinity of Gilcrest in Weld County.

Many cull piles of potatoes have been found in Weld County, located in dumps along the roads, in low places in alfalfa fields, and near storage cellars. Thousands of plants are growing from these cull potatoes. Examination of tubers shows many of them to be infected with Phytophthora infestans. Laboratory examinations of random tuber samples and plants collected from these cull piles have been made. To date no sporangia of the fungus have been found. Regular inspections of these cull piles will be made for the appearance of late blight. -- E. W. Bodine, Emergency Plant Disease Prevention Project. Week ending June 17.

POTATO DISEASES IN IDAHO; In company with L. Verner of the Department of Horticulture, a short trip was made to Lewiston and vicinity, June 16. Many patches of potatoes varying in size from about 1/10 acre to 5 acres were examined. Mosaic (virus) infection generally was severe. In one patch of Bliss Triumph 90% of the plants were diseased, about 30% being very severely affected. A 5-acre field showed no healthy plants, and another smaller field about 2% healthy.

On the other hand many fields were examined, of Katahdin, Chippewa, and Cobbler, as well as common Bliss Triumph and Netted Gem, that were in excellent condition, although the size of the plants varied considerably due apparently in the cases examined to Rhizoctonia injury. -- Earle C. Blodgett, Emergency Plant Disease Prevention Project.

## DISEASES OBSERVED ON CUCURBITACEOUS CROPS IN FLORIDA

Arthur S. Rhoads

Marion, Lake and Sumter Counties.

Watermelon. - Scattered plantings of watermelons were visited between Evinston and McIntosh, between Reddick and Ocala, at Belleview, between Summerfield and Weirsdale and between Weirsdale and Altoona in Marion County on May 29 and 30. Numerous plantings were visited at Lady Lake, Leesburg, Umatilla, Altoona, Okahumpka, Mascotte and Groveland in Lake County on May 31 and June, two near Plymouth in Orange County on June 2, and others in the vicinity of Wildwood and Oxford in Sumter County on June 8. In addition to examining numerous commercial plantings the writer made it a point to visit loading centers and interview both inspectors and growers at various points. The scattered plantings northwest of Ocala were late and few growers had even begun cutting melons. In southeastern Marion County and in Lake and Sumter Counties, however, plantings were much farther advanced and matured more rapidly than was anticipated. At Okahumpka, where shipping began earliest, it was drawing to a close. At the end of May it was estimated that 85% of the Lake County crop of about 5000 acres had been shipped. Inspectors figured that about 1400 cars would be shipped out of this county. The shipping season also was about drawing to a close in Sumter County. The season at Umatilla and Altoona in the northern part of Lake County was not so far advanced.

Plantings in many sections of these 3 counties were severely injured by late frost on April 6, particularly in low-lying situations, where some growers had to replant the more seriously injured portions of fields. After the growth of the vines had been arrested by frost there was considerable rainfall and cold nights and windy days during the early part of the season, at least in Lake County. This retarded the setting of fruit and proved conducive to early infection of the vines by downy mildew and anthracnose. During the latter part of the season the weather was generally dry, though some rain occurred in Lake County during the last week in May. In Marion County northwest of Ocala, however, plantings were in need of rain. There was also considerable wind-whipping of the vines and injury from blowing sand. At Okahumpka cold east winds were said to have been prevalent throughout the season up to the middle of May. In some fields considerable injury resulted from infestations of aphids. Hail was reported to have caused considerable

damage to 120 acres at Conant near Weirsdale, to about 300 acres between Okahumpka and Groveland and to about 250 acres in the vicinity of Wildwood, the vines being cut to pieces in some cases. The heavy rainfall early in the season leached out much of the soluble fertilizer and in plantings that were not given an application of nitrate of potash or soda as a top-dresser the vines died rapidly.

The vines were observed tobeholding upfairly well in but a very small percentage of the plantings visited. In the majority they were more or less extensively killed or defoliated, being entirely so in many fields. Even those that had held up well previcusly were dying rapidly. The field representative for one large buyer stated that he had seen but one clean field in plantings totaling about 3000 acres in Marion, Lake and Sumter Counties. In many plantings the foliage on the vines was severely killed before the melons even matured, which resulted in considerable immaturity and sunburning of exposed melons.

Owing to the advanced condition of the crop and the extent to which the vines had been killed or defoliated in general it was difficult to evaluate the relative importance of different diseases as factors of loss. Downy mildew (Pseudoperonspora cubensis) and anthracnose (Colletotrichum lagenarium) appeared to be the principal fungous diseases of consequence, however. While anthracnose has been regarded as the most important vine-killing disease other then Fusarium wilt (Fusarium [oxysporum f.] niveum) in Florida, observations in numerous fields indicated that this year downy mildew was of far greater importance than anthracnose. In fact, downy mildew clearly was the pricipal cause for premature death of the foliage in many fields, particularly northwest of Ocala, being widespread in a number of fields where comparatively little anthracnose occurred on the melons. Gummy stem blight (Mycosphaerella citrullina) also occurred to some extent in a few fields and blossom-end rot (Pythium sp. and Diplodia natalensis) occurred to some extent in most of the fields that were examined.

Anthracnose was reported by federal inspectors to occur on at least 10% of the melons in nearly every field in Lake County and to run as high as 60% in some. The quality and size of melons in the second cutting, which ordinarily is better than the first, dropped way down this year. Heavy culling of melons hauled to the cars for loading was necessary in many cases before they would pass inspection. This was largely due to anthracnose, sunburning, worms, immaturity, white heart and second growth. At Umatilla half of one large truckload observed failed to make the No. 1 grade.

Growers ordinarily expect to load a car of melons from 2 acres and figure on an average of one good melon per vine, with about 468 hills per acre. The yield was estimated to be reduced to about 200 melons per acre this year and the average weight about 25 pounds. Yields were very low and disappointing to many growers this year as a result of a combination of unfavorable weather conditions and diseases. It was the general opinion that the yield this year was cut fully 50% in general in southeastern Marion, Lake, and Sumter Counties, and some growers sustained much heavier losses. One large grower at Lady Lake stated that he shipped 26 cars from 50 acres last year but that he would do well to get that many from the total of 86 acres that he has planted this year. One leading grower at Umatilla with 100 acres planted said that he would do well if he gets 15 cars loaded and that he should have shipped 40 cars. At Mascotte one grower harvested 883 melons from 9 acres at Okahumpka, where the crop was reduced to a bare half,

one grower reported that while he had loaded 48 cars from 60 acres last year he will load but 15 or 16 cars from 70 acres this year. One large shipper from Wildwood reported that but from 12 to 13 cars of poor melons would be loaded from 250 acres of plantings within a 10-mile radius, whereas from 75 to 90 should have been loaded. One grower in that section was reported to have shipped but 9 cars from 80 acres. At Leesburg some growers were reported to have cut but 2 or 3 cars of good melons from as much as 40 to 60 acres and two instances were reported where growers had shipped but a single car of melons from 20 acres and in one case these were poor and small. Of 5 plantings visited along one road from Leesburg, only one of 8 acres will make money and even in this the foliage on the vines was severely killed by downy mildew and anthracnose. The other 4 plantings totaling 100 acres were failures due to the severity of diseases. At Altoona a 15-acre planting that was never sprayed was sold to a buyer for $150. In general it may be stated that some growers were successful and made money, others will do well to break even, and still others sustained substantial losses.

The success of growers varied greatly with the care given their plantings but many suffered loss regardless of precautions while others who did not even go to the trouble and expense of spraying or dusting came out fairly well in some cases. Many growers did not spray or dust and very little seed was disinfected for disease control. Dusting did not appear to be as effective in disease control in Lake County this year and many growers got much better results from spraying. It was a rarity to learn of any grower who painted the stems of his melons after loading, and where done in one case no recutting was practiced first. Plantings continue to be made mostly on new land each year, as has been the custom for many years; hence Fusarium wilt and nematodes are not such important factors. In the field tests of the Watermelon Investigations Laboratory conducted at Leesburg by the Experiment Station, where melons are replanted on the same land, the vines of the Cannon Ball and Stone Mountain varieties were virtually dead from wilt while those of wilt-resistant varieties on either side continued to hold up. Comparatively few growers, however, appear to be planting the newer wilt-resistant varieties that have been developed by this Laboratory. It was observed quite generally throughout plantings in Lake County that the Cannon Ball variety was much more severely damaged by anthracnose and other diseases than the Tom Watson.

Watermelons have brought unusually good prices this year, cars of No. 1 grade selling from $700 to $1000, with one car said to have brought as high as $1200. Buyers have been paying from 40¢ to $1 apiece in the field, depending upon size. Costs of production have pyramided greatly, however, and some growers have had difficulty getting melons loaded after they were cut. While the normal cost of production is considered $50 per acre it now runs about $80. Owing to the present excessively high cost of labor, which has more than doubled since the war, it now costs about $100 to load a car, including cutting and hauling.

Cantaloup. - Leaf blight (Alternaria cucumerina) was observed to occur abundantly on a few hills of the Smith's Perfect variety planted at Leesburg (Lake County) on June 8. This is one of the worst diseases of this little-planted crop in Florida.

Cucumber. Downy mildew was widespread on May 29 throughout a 12-acre planting at Gainesville (Alachua County) that had been severely injured by late frost on April 6 when still quite young. The disease was said to have appeared when the vines were quite young. Some damage from aphids also occurred. The seed for this planting was not treated and the vines were neither dusted nor sprayed. The yield was said to have been reduced fully 50%, the crop being about at an end after but from 500-600 crates were picked. Another planting of about 1 1/2-acres east of Gainesville was seen in which downy mildew likewise had caused extensive killing of the leaves and greatly reduced the yield.

Zellwood, Orange County.

Extensive late plantings of vegetable crops on muck soil were examined on June 6 and 7. Cucumbers totaling 11 acres in one farm operation showed general heavy infection of the older leaves by downy mildew while the vines were still fairly young, despite spraying and dusting. The yield as yet had been small.

Alachua, Levy, and Gilchrist Counties.

An extensive trip was made on June 15 to visit various crop plantings, chiefly watermelons in these counties. Dr. George F. Weber of the Experiment Station accompanied the writer.

Watermelons. - Widely scattered plantings totaling 367 acres were visited on June 15 in the vicinity of Archer, Gainesville and Newberry (Alachua County), Williston and Chiefland (Levy County), and Woodard and Trenton (Gilchrist County). The plantings in general were much less advanced than those seen earlier in Marion, Lake and Sumter Counties but shipments had passed their peak at Williston and were nearing their peak at most other points, though just about commencing in a few plantings.

Plantings were severely damaged by the late frost of April 6 and many growers had to replant portions of their fields. Plantings in the vicinity of Gainesville and Newberry suffered from excessive rainfall prior to this late frost. Extremely dry weather prevailed throughout most of the growing season in this part of the State but frequent, and in some cases excessive, rainfall has occurred during the past 2 weeks when shipping was nearing its peak at many points. Growers in general regarded the crop as being much lighter than usual, owing largely to frost injury of the vines when young, dry weather, and diseases. While some growers appear to have done fairly well, others claim only about a 60% crop, and some but about 25%. Melons in general average considerably larger than those in Marion, Lake and Sumter Counties. The vines were fairly green in general and some still are, especially in younger plantings, but in the majority of the plantings that were examined the foliage has died rapidly during the rainy weather of the past 2 weeks.

Downy mildew clearly was by far the most important disease causing premature killing of the foliage and occurred more or less extensively in nearly all fields examined. The severity of this disease appears to be nothing new since a number of growers alluded to it as "wildfire" and apparently have experienced trouble from it over a period of several years. Anthracnose occurred to a greater or lesser extent in many of the fields and in one of 10 acres at Archer and a younger one of 60 acres between Gainesville and Newberry it was the principal disease killing the foliage. It occurred more or less severely on melons in a

number of fields, but in most of the plantings that were examined the melons appeared quite free from it as yet, though it was reported to have become more prevalent since the rains of the last 2 weeks. Gummy stem blight occurred to a slight extent in a few plantings. Leaf spot (Cercospora citrullina) was observed in a 60 acres planting between Gainesville and Newberry, in which harvesting had just begun. Blossom-end rot occurred more or less frequently in most fields examined. Some hail injury was reported at Bell north of Trenton. At various loading centers visited considerable culling of melons from anthracnose, sunburning, immaturity and worms was reported. Growers were found to be cutting and painting the stems of melons after loading at a number of points.

Cantaloup.--A planting of 1 acre of Smith's Perfect variety at Williston was found to show widespread leaf blight infection, though the vines were holding up very well in general.

Cucumber.--An isolated planting of 1-1/2 acres on newly cleared land between Williston and Bronson showed severe killing of the vines by downy mildew. The same situation occurred in another planting of 1/2 acre between Gainesville and Alachua. Picking was about at an end in both plantings as a result of this disease.

Yellow Crookneck Squash.-- A 3/4 acre planting adjoining the cucumbers between Williston and Bronson showed some evidence of both downy mildew and powdery mildew (Erysiphe cichoracearum). Traces of blossom blight (Choanephora cucurbitarum) and mosaic (virus) also were noted.

## DISEASES REPORTED ON OTHER VEGETABLE CROPS

DISEASES ON BEAN IN FLORIDA: A total of 192 acres of snap beans were examined in muck-soil plantings at Zellwood in Orange County, June 6 and 7. The plantings ranged from those just setting beans to those that had been picked from 1 - 3 times. Scattered infection of rust (Uromyces phaseoli var. typica) ranging from traces to mild infections that were widespread in extent were observed in plantings totaling 122 acres, and in one 10-acre planting that was being picked for the third time the infection was rather heavy and especially widespread. No infection was observed in the younger non-bearing plantings but it increased in severity and became more widespread as the plantings became older. In no case, however, did the disease appear to have any particular bearing on crop production. The bushes in general grew very luxuriantly and the first picking is sometimes the only one. Plantings of Tendergreen beans made with rows 30 inches apart using 1/2 bushel of seed per acre made such a rank growth that the vines completely covered the ground with such density that the lower beans were inclined to be pale in color from shading. By the time the pickers work through such fields the vines are pretty well twisted and frequently trampled so that the second picking is less valuable and more tedious to make. Further damage is frequently done by trucks driving through parts of fields in loading. The price of beans was low and one man with 10 acres contemplated inviting the public to come and pick for themselves after he had completed his first picking.

A trace of halo blight (Bacterium [Pseudomonas] medicaginis var. phaseolicola) was found on a handful of beans gathered in 2 or 3 local

spots where the disease was observed in one field that was being picked for the third time.

Manganese deficiency was rather striking in 2 plantings of 20 acres each.--Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

BEAN MOSAIC IN COLORADO: Mosaic (virus) was found in small amounts in all fields visited in Weld County during week ending June 17.--E. W. Bodine, Emergency Plant Disease Prevention Project.

DISEASES ON BEETS IN OREGON: Fields of seed crops were observed in the vicinity of Corvallis, June 17. About 50 acres of garden beets for seed appeared very free from disease. Traces of leaf spot [Cercospora beticola] were found. A rather heavy infection of rust [Uromyces betae] was reported on the leaves from these roots before they were stored last season, but as yet no recurrence on the seed crop is evident. These large fields were in a somewhat isolated locality which may explain their freedom from disease.--Lytton W. Boyle, Emergency Plant Disease Prevention Project.

CABBAGE YELLOWS IN NEW YORK: Fusarium yellows [F. oxysporum f. conglutinans] was found in a small section of cabbage in Nassau County on Long Island. This was a 100% loss.--F. M. Gordon, Weekly News Letter, June 19.

DISEASES ON CABBAGE AND KALE IN FLORIDA: Extensive late plantings of vegetable crops on muck soil at Zellwood in Orange County were examined on June 6 and 7. Thirty acres remaining of an unusually late cabbage planting that was being cut showed considerable spotting of the older leaves from Alternaria brassicae [?, presumably the black leaf spot, A. circinans]. Occasional scattered plants also were attacked by bottom rot (Corticium vagum)[Pellicularia filamentosa], being more or less extensively involved in a soft watery rot that sometimes had its inception in the stem and in other cases in the outer leaves of the head. In some cases where the disease had progressed up the stalk and core of the heads the plants were characterized by wilting and death of the head. The loss from this rot did not exceed 1%.

A 6-acre planting of kale being cut showed some evidence of downy mildew (Peronospora parasitica) on the older leaves, which were being stripped anyway in cutting.--Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

DISEASES IN CARROT SEED FIELDS IN CALIFORNIA: Numerous fields of seed carrots were examined during the period June 4 to 17 in the Delta region south of Sacramento. Aster yellows (virus) was the most prevalent disease found throughout the area. Few fields were free from the disease and it was causing loss in a number of fields. The symptoms and the severity of the disease varied considerably. It seemed likely that some plants had been infected early, perhaps while in the root beds, and that others represented late infections in the field. Representative specimens showing varied symptoms were checked and the identity of the disease verified by Dr. Severin.

A light infection of bacterial blight (Phytomonas [Xanthomonas] carotae) was seen in a few fields. It was confined mainly to the lower leaves and only a little infection was found near the umbels. The disease did not seem to be widespread or serious at this time.

Some loss has occurred throughout the area due to soft rot of the carrots (probably Erwinia carotovora).

A wilting of the carrot plants, of undetermined origin, was noted in

a few fields.--Horace L. Barnett, Emergency Plant Disease Prevention Project.

EGGPLANT DISEASES IN FLORIDA: A planting of 3 acres near Gainesville June 17 showed some plant loss from brown rot (Bacterium [Pseudomonas] solanacearum). This disease apparently was responsible for the loss of about 50% of the plants as a large part of the field had been replanted. Leaf spot (Phomopsis vexans) was quite prevalent and rootknot (Heterodera marioni) also was apparent.--Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

LETTUCE DISEASES IN OREGON: Plantings in the vicinity of Eugene in Marion County were visited June 14. Traces of big vein (virus) had been noted in this area earlier, but the disease was not observed in plantings examined at this date. Drop [Sclerotinia sclerotiorum] was prevalent but not so serious as had been noted in later crops last season.--Lytton W. Boyle, Emergency Plant Disease Prevention Project.

DISEASES ON OKRA IN FLORIDA: A 14 acre planting at Williston, June 15, in which the plants were too thick and many were small and spindly looking, was found to be extremely severely infested by rootknot (Heterodera marioni). It was estimated that 50% of the plants will remain small and unproductive as a result of the severity of this disease. A trace of blossom blight (Choanephora cucurbitarum) also occurred.--Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

ONION DISEASES IN CALIFORNIA: A light infection of downy mildew (Peronospora destructor) was found on the stalks of seed onions near Walnut Grove. Little loss will result.

A few scattered plants with aster yellows (virus) were found in a planting of seed onions west of Clarksburg. Other fields were apparently free from this disease.--Horace L. Barnett, Emergency Plant Disease Prevention Project. June 4 - 17.

DISEASES OF PEPPERS IN FLORIDA: A planting of 8 acres near Gainesville June 17 showed general infection of the older leaves throughout by leaf spot (Cercospora capsici) which was causing defoliation. Sunburning of fruit was widespread and was estimated to have caused a loss of 10% of the crop. Pythium aphanidermatum was observed to be causing rotting of occasional fruits.--Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

SPINACH LEAF SPOT IN OREGON: Fields of seed crops were observed in the vicinity of Corvallis June 17. Only a trace of Heterosporium leaf spot was noted on the spinach. These large fields were in a somewhat isolated locality and this may explain their freedom from disease.--Lytton W. Boyle, Emergency Plant Disease Prevention Project.

## NEMATODE SURVEY IN SOUTHEASTERN STATES

A. L. Taylor

During the period, June 5 to 17, vegetable crops in the vicinity of Savannah, Georgia, peach orchards near Fort Valley, Georgia, vegetables and field crops in Baldwin County, Alabama, and tobacco at Quincy, Florida, were examined.

South of Savannah, potatoes in the latter stages of growth were found

to be free of infection or only lightly infected by the rootknot nematode, Heterodera marioni. As the crop was badly damaged by blight, no attempt was made to estimate the extent of nematode damage, but it is probable that nematodes were a very minor factor. Snap beans in this area were found to have moderate to heavy rootknot infections.

In the peach-growing area near Fort Valley, Georgia, rootknot infection on peach trees is rather common, but only an occasional orchard is damaged. Some well established trees examined had a moderately heavy infection, but were apparently in good condition. Young trees in an adjacent orchard were heavily infected and in poor condition. In this case, examination of other susceptible plants in the middles indicated that the trees were probably infected when set out. Experiments with rootknot-resistant rootstocks by Dr. J. H. Weinberger at the U. S. D. A. Experiment Station at Fort Valley points the way toward eventual elimination of the rootknot nematode as a serious menace to peaches in this section.

Baldwin County is located in southern Alabama and borders on Mobile Bay and the Gulf of Mexico. At the time visited (June 7-8), the potato crop had been entirely harvested. Cucumbers and sweet corn were being placed on the market. Field corn and sweetpotatoes were the other principal crops.

Here, as in many other places in the South, the farmer recognizes the rootknot nematode as an ever present enemy. The most susceptible crop is cucumbers, which are always planted on newly cleared land or land used previously only for pasture. Scattered light to moderate rootknot infection in cucumber plantings examined indicated that even these locations are not always free from this pest. Six acres of okra had about half of the plants moderately infected with apparent stunting. There was no opportunity to learn anything of the past history of the field.

In the vicinity of Quincy, Florida, the principal crop is cigar-wrapper tobacco. This is grown in "shades" made by covering a framework of poles and wire with a special loosely woven cloth. Often as much as 10 acres is included in a single shade. Construction of shades is expensive, large quantities of fertilizer are used, and a superior grade of tobacco can often be grown where a shade can be used continuously. Despite these considerations, shades are seldom used for more than one year in two or three because of trouble with the rootknot nematode. The best estimate of damage due to this parasite is given by Kincaid and Reeves in their recent publication, "Cultural Practices for Root-Knot Control between Annual Crops of Cigar-Wrapper Tobacco" (Univ. of Fla. Agr. Exp. Sta. Bul. 392 August, 1943.) They estimate that "Losses in crop value range from a trace in nearly every shade to about 50% in a few shades, averaging perhaps 5%." Value of the crop in Gadsen County is given as $1,480,028 in the Florida Agricultural Statistical Report, 1941. Five percent of that amount would be $74,000 for the loss in a single year. In addition, as pointed out by Kincaid and Reeves "Additional losses are incurred by the necessity of resting or moving the shades".

Rootknot infection in the shades examined and the visible evidence of damage to infected plants tended toward confirmation of the estimate of Kincaid and Reeves. Also noted was a correlation between the infection on the present crop and the crops planted in the previous one or two years when the land was not used for tobacco. As could be expected, where highly susceptible crops had been used, rootknot nematodes were more abundant

than where resistant crops had been planted.

Under the direction of Dr. R. R. Kincaid, work at the North Florida Experiment Station at Quincy on rootknot reducing rotations, rootknot resistant tobacco varieties, and chemical methods of nematode control is well advanced. This work gives promise of considerable benefit to the industry in the near future.

The meadow nematode, Pratylenchus pratensis, was found to be associated with the root abnormality illustrated by Kincaid and Reeves in the above mentioned bulletin (fig. 7, page 13.) Affected roots are usually the lowest ones on the plant and are characterized by their somewhat enlarged diameter and almost total absence of lateral rootlets. On the specimens examined, decayed remnants of lateral rootlets could be found with brownish lesions on the enlarged roots at the point of attachment. In the lesions, the meadow nematode could be easily found, but it could not be determined whether or not it was the principal cause of the condition.

The meadow nematode was also found in characteristic lesions on the roots of corn.

EMERGENCY PLANT DISEASE PREVENTION PROJECT.

## FRUIT DISEASES IN CALIFORNIA

Horace L. Barnett

Pears.- Fireblight (Erwinia amylovora) was found to be severe in 4 orchards in the vicinity of Rio Vista. Light infections of the disease were general in the Delta region northward from Rio Vista along the Sacramento River, especially in the vicinities of Walnut Grove and Courtland. Only a few blighted spurs were seen on the trees in the latter area at this time. This does not necessarily mean that the severity of infection this spring in these 2 nearby areas differed greatly. It may mean that the growers in the Walnut Grove-Courtland area have done a better job of pruning out the blighted spurs. It was evident that the blight had been pruned out of many of the orchards. No trace of blight was evident in many of the orchards in the Delta region. Most of the pears grown in the Delta region are the Bartlett variety.

Fireblight of pear was rather general in Pleasant Valley in Solano County. It was severe in some orchards of Bartletts. Apparently little attempt at pruning out the infections has been made in this area this season. No blight was seen in the vicinity of Fairfield.

Apricots.- Apricots are being harvested in the Winters district. At the time of the visit to Winters approximately one-fourth of the crop had been picked. The fruit was remarkably free from disease or blemish. A very light infection of Coryneum[carpophilum] was evident on the fruit in some orchards. The infection was heavier in one orchard, which apparently had not been sprayed, in Pleasant Valley. No brown rot [Monilinia sp.] of the ripe fruit was seen.

Peach.- Buckskin (virus) was found in one orchard at Winters in which its presence was unknown up to this time. It is known to be present in other orchards in this area.

Cherries.- The cherries in Santa Clara County and in San Joaquin County were inspected and found to be entirely free from brown rot this

season. At this time most of the cherries in these districts have been picked.

Currants.- A moderate infection of powdery mildew (Sphaerotheca mors-uvae) was found on currants at Mt. Eden in Alameda County. The owner had dusted heavily with sulfur but apparently had not entirely checked the disease at this time.

EMERGENCY PLANT DISEASE PREVENTION PROJECT.

## OTHER REPORTS ON DISEASES OF FRUIT AND NUT CROPS

FRUIT DISEASES IN NEW YORK: (Reports from Weekly News letter for June 19). Growers in Rockland County are becoming very anxious about Apple scab (Venturia inaequalis) according to W. J. Clark. "Orchards that were practically completely free from scab a week to 10 days ago are now showing some infection, mostly on the last terminal leaf. On the whole, the infection in the County is more general than last year. Apparently, the growers missed on the week of May 22 when they waited for the weather to clear up before spraying." In Ulster County C. C. Gillette reports "Apple scab is showing up in most orchards from the rains of the week of May 24. Fruit infection is about as bad as last year in spite of the fact that leaf infection is generally less. In a few orchards scab is so heavy that lime=sulfur cannot safely be used to burn it out." In Niagara County L. A. Putnam states that "Apple scab on fruits is becoming more general where the leaves are heavily infected and adequate protection has not been maintained." In Clinton County, according to A. B. Burrell "Apple scab has been checked, but live lesions may be found in all orchards to some extent. Fruit lesions are rare."

Fireblight (Erwinia amylovora) on apple is reported from Rockland and Clinton Counties, much more prevalent this year in the former than during the last several years, according to W. J. Clark, while only a few few affected spurs and terminal twigs are reported in the latter by A. B. Burrell. Varieties affected in Rockland County include Cortland, Rome Beauty, Baldwin, Delicious, Greening, and others.

Fruit infection by apple rust (Gymnosporangium juniperi-virginianae) is beginning to appear in Rockland County, according to W. J. Clark. Foliage infection is plentiful but not too serious, lesions per leaf averaging 12 to 15 on Rome Beauty. In showers on June 15 the old cedar apples were pretty well dried down and discharged no spores.

So far in Rockland County very little brown rot (Monilinia fructicola) has been observed on Sweet cherries or Peaches, according to W. J. Clark. In Orleans County, G. G. Maier reports that it has been noted on cherries but not on peaches or plums.

Botrytis rot is causing considerable damage to Currants in Ulster County, according to C. C. Gillette, and cane blight, which seems to be much more prevalent than last year, is also causing serious losses.

FRUIT DISEASES IN LOUISIANA: The surveys during the week ending June 17 were made in the northern portion of the State. Peaches, plums, and apples appeared to be more or less restricted to the area between and around Shreveport and Ruston.

Blotch (Phyllosticta solitaria) was noted on Apple leaves and fruit in one small orchard in Bossier Parish.

Peachscab (Cladosporium carpophilum)and brown rot (Sclerotinia[Monilinia] fructicola) appeared to be common in small orchards throughout the Shreveport-Ruston areas. Bacterial spot (Phytomonas [Xanthomonas]pruni) was noted also but damage was slight.

Brown rot and bacterial spot were frequently noted in scattered Plum orchards in the same area.

Since Pear leaf spot (Fabraea maculata) is so common and apparently destructive in the southern part of the State, it was of interest to note that the disease was not observed on any trees in the section surveyed this week.--Douglas C. Bain, Emergency Plant Disease Prevention Project.

FRUIT DISEASES IN COLORADO: Fireblight was found to be general on Apple trees in Adams, Denver, Jefferson, and Larimer Counties. Mr. W. J. Henderson, Extension Pathologist, reports that it is also general in the Canon City area in Fremont County. Considerable reduction in yield will result because many fruit spurs per tree are infected.

Spur blight of Raspberry (Mycosphaerella rubina) was found to be causing a slight amount of damage in Adams and Jefferson Counties.--E. W. Bodine, Emergency Plant Disease Prevention Project. Week ending June 17.

FRUIT DISEASES IN IDAHO: In company with L. Verner of the department of horticulture a short trip was made to Lewiston and vicinity June 16. Coryneum [carpophilum] blight on Sweet cherry was much less severe than last year. In one orchard some leaf spotting and fruit rot was showing up. Brown rot was severe in this orchard in 1943 but none was noted in this examination.

Peach leaf curl [Taphrina deformans] has been severe this spring on untreated trees.

Powdery mildew [Podosphaerea leucotricha] of Apple, principally Jonathan, was very serious, resulting in poor set of bloom and fruit and some russetting. The leaves were small and deformed and heavily coated with spores. From the grower's remarks it is believed that the disease was severe last year, accounting for unfruitfulness and reduced tree vigor.

Fireblight was severe on young Jonathan trees.

Leaf curl (virus) was noted on Black raspberry but the amount of infection was slight.--Earle C. Blodgett, Emergency Plant Disease Prevention Project.

FIREBLIGHT ON APPLE IN IOWA: Apples seen in Black Hawk County were infected with fireblight, some of the trees having the tips of nearly all branches dead for 2 to 3 feet.--Edgar F. Vestal, Emergency Plant Disease Prevention Project. Week ending June 19.

PEACH YELLOWS IN SOUTHEASTERN TENNESSEE: In Tennessee yellows (virus) is restricted to eastern Tennessee and is rare in commercial orchards. However, it is of more frequent occurrence in home and abandoned plantings. In 155 trees observed in 10 home plantings in Warren and White counties 11% of the trees were diagnosed as having yellows. The field man in charge stated that they have removed about 1000 yellows trees in McMinnville in the last 8 years; that surrounding one nursery in White County about 20% of 500 peach trees had yellows; and that in one area in White County 10% of the trees in 10% of the plantings (total of 1%) had yellows.--R. A. Hyre, Emergency Plant Disease Prevention Project. June 8-16

PEACH DISEASES IN OREGON: Secondary spread of leaf curl was noted in one rather poorly kept orchard near Eugene in Marion County, June 14.

The dormant spray apparently had been applied too late and leaves from the top buds were infected. Secondary infections were spreading to other leaves from these tip leaves. This secondary spread has not been observed in other orchards so far this spring, and since this orchard was not well kept, it is thought that a careful spray program for the control of brown rot might have prevented such spread.

Coryneum blight was noted in a few incidental peach trees in a walnut orchard where a control program for peach diseases had not been followed.--Lytton W. Boyle, Emergency Plant Disease Prevention Project.

BLACK ROT OF GRAPE IN FLORIDA: Two small vineyards at Lady Lake (Lake County) were visited on May 30. About 5% loss from black rot (Guignardia bidwellii) was observed in the remains of an old land company's vineyard, an experimental planting of 200 varieties. Most of the vines have died out except where they were on R. W. Munson or Black Spanish stocks, these being about the only 2 rootstocks that have held up fairly well over a period of 20 years.

In an adjoining 3 acre planting belonging to an absentee owner black rot was found to have involved fully 1/3 of the light crop. In the Florida Beacon (apparently the same as Munson's Extra) variety the disease had attacked 75% of the fruit while the Muench variety was largely free from it. The Florida Beacon has proved extremely susceptible to black rot and the disease is said to become worse as the vines grow older. From 10 to 12 sprayings are required per year to control this disease effectively and this excessive amount of spraying is impractical.

Many of the vineyards in central Florida have been neglected and allowed to die out of late years. A few enthusiasts still keep the breath of life in the grape industry in Florida but it has passed out of the picture again as a commercial proposition. It is doubtful if the industry will be revived again until sufficient plant breeding work is done to develop varieties that will prove adapted to Florida and sufficiently productive to make their culture profitable.--Arthur S. Rhoads, Emergency Plant Disease Prevention Project.

DEAD ARM DISEASE OF GRAPE IN OHIO: A number of vineyards in Lake and Ashtabula counties were examined for the presence of dead arm disease, (Cryptosporella viticola), which has been found on an occasional plant in most vineyards in past years. However, this season the disease is much more prevalent than it has been during the past few seasons. The number of diseased vines per vineyard ranged from a trace to 10% with the average being about 1%.

Infected vines show all stages of the disease ranging from a single affected cane to those vines that are entirely killed and have suckers growing up from the base. On diseased canes the leaves are small, distorted, and show a distinct yellow color. On portions of canes produced last year lesions of the fungus are present with pycnidia showing through the epidermis. Canes of the present season show a few reddish brown lesions but they are not numerous.

A careful examination of the diseased vineyards shows that lesions of the fungus were much more numerous on year-old wood than on canes of the present season. This seems to be correlated with weather conditions. The 1943 season was quite wet and humid for a long period which favored spore production and infection of last season's growth. The 1944 season has been much less humid and wet than last year with a correspondingly lower percentage of infection.--M. R. Harris, Emergency Plant Disease Prevention Project . June 12 - 17.

SMOKE INJURY TO PERSIAN WALNUT TREES IN OREGON: Defoliation and injury to the leaves of walnut trees in a large orchard was noted in the vicinity of Eugene, in Marion County, June 14. Circumstantial evidence indicates that smoke from a brooder house had caused the damage, although the injury seemed almost too extensive to be caused by the small burner in the brooder. The history and pattern of the injury, however, consistently pointed toward the vent from the burner as the source. Tests with smoke from briquets are being conducted to prove or disprove the suspected source. According to Mr. Schouster, similar reports of injury have been received from large cities. It appears that walnuts are particularly susceptible to such injury, since sour cherry and peach trees in the same orchard did not show injury.--Lytton W. Boyle, Emergency Plant Disease Prevention Project.